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\* INDIANA SINCLAIR-TIMEX NEWSLETTER \*  
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NOVEMBER 1988

Editor-Frank Davis  
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I.S.T.U.G. MEETING

The meeting for the User Group in December has yet to be decided. Those who are interested in having one please drop me a call at 317-473-8031. We may have one around the middle of the month and at someones house (or at the Eagledale Public Library if they have an open time slot). Paul Holmgren is seeing about arranging our use of the library community room for 1989. We have picked up another new member, George Love of Indianapolis, and had a new prospect at our last meeting, Ted Heckman of Marion. Once in awhile we lose a member, but seem to pick up a new one about once a month, not too bad when I hear of other groups talking about declining membership!

EDITORIAL

We have a Fest for Timex-Sinclair computers coming up in the early part of May 1989 near the Washington, D.C. area. I am planning on being there and taking the time to see the Capital. This will be a good time to tour the Smithsonian Institute and visit with old friends like Tom Bent, Mark Steuber and many others. I hope to see a large contingent of ISTUG members there. We will have more news on this in our newsletter as soon as we receive it. So far each of our shows here in the Midwest have all been a financial success, so let us help to ensure that this Eastcoast show is just as much of a success, as they have always supported us. We are in the talking stage as to whether or not we will produce another TS show here in the Midwest next Fall. Let me know if you are interested in that.

I received some notices in the mail the last two weeks informing me that Frank Toemay of Quantum Computing had filed for Bankruptcy to escape his obligations to people who had placed orders from him for QL hardware and software. I am listed as one of the creditors in this matter. I could be a little more forgiving if it was not for the fact that I feel he accepted orders in bad faith with no intention of honoring them. I feel like this sort of conduct should not be allowed to hide under the guise of Bankruptcy. That is one creditors opinion.

On a lighter side for QL users I have read in two newsletters and an English mag that we may soon have an IBM emulator available for the QL. No prices on that yet, but it just may be worthwhile. Along with that is the story that a German company is trying to get the rights from Amstrad to produce QLs. They would probably have a built-in disk drive instead of the microdrives. I hope both rumours turn out to be true. The power of the QL has been barely scratched and these two items would go a long ways toward enhancing the machine and encouraging software writers and hardware hackers.

This is part of a program submitted by Joan Kealy, a member of ISTUG. The entire programs are part of our public domain library which is available to all members. We encourage other members and readers to submit programs to the library. We are particularly looking for ones for the TS1000, the QL and the Z88. Of course we won't turn down any programs for the TS2068 or the Spectrum.

(1) To EDIT cartridge software, break ( if possible ), enter own BASIC lines into RAM by POKE 23750,0; return to cartridge romware with POKE 3750,128.

(2) To find starting ADDRESS, print PEEK 23635+256\*PEEK 23636; unlike TS1000, starting ADDRESS moves about on TS2068.

(3) To increase word processing or game speed, POKE 23561, N (N=1 to 35) with 10-15 recommended for text. POKE 23562, N (N=1 to 5) with 3 recommended for text. You may also crash your program. For games POKE 23561, N with 1 to 10 best; POKE 23562, 1 best, though range as same as for word processing.

(4) Ever have a program with an unlistable line 0? This should help. To zero line number, POKE 26711,0. POKE 26711,1 to change line 0 to 1.

#### OTHER SINCLAIR NEWS

KNIGHTED COMPUTERS, who are still supporting Timex computers despite rumours to the contrary, have moved to a new address. The new address is 803 South 4th St., Fulton, NY 13069. Write them for a copy of their catalog.

Curry Computer is offering a sale on TS1000s and assorted items for them at this time. Now is a good time to get a backup for use or for parts. Phone them at 1-800/628-2828 to place an order.

You should soon see your September-October issue of Time Designs in the mail. I am not sure what the delay was, even though I asked, but they now have a message on their answering machine that says they are getting caught up. Glad to hear so, as it is one of my favorite TS mags. Let us encourage them not to give up on us.

For Q1 users, and users of the TS1000, write for a catalog from EMSOFT, Estate Management Services, PO Box 8763, Boston, MA 02114-8763. They handle software for SiriusWare for your TS1000 and numerous programs for the QL. The one I like most is TAX-I-QL, a tax preparation program that runs with memory expansion on the PSION program ABACUS. They are now taking orders for the 1988 version of this and will be shipping as soon as they have all the latest updates that the IRS sees fit to throw at us this year. They have a nice word processor for the TS1000 and the TS2040 that has lower case letters available for your use. Their phone number is 617-889-0830. All of this company's software is done by North American authors.

## A Quick Wafadrive Conversion for TS2068 VU-FILE

On any given night this past week I could find my wife typing a fury of law briefs into my TS2068 under Spectral Writer on my Rotronics Wafadrive system. With her system in the shop, I decided to use the extra time on my hands to gather together all of my Wafadrive literature and dig in.

As I began to read, it occurred to me that I really had not transferred much software over to wafers. I had read the manuals before, but nothing really sank in...until now. The problem was that I was limiting myself in believing that only Spectrum software could be converted over to run on the Wafadrive. As soon as my wife was off the system, I tried some conversions and found that this was not so.

Thus I have been able to convert some TS2068 programs over to run on a Spectrum emulated 2068 with Wafadrive. This article will discuss how to convert the TS2068 version of VU-FILE to RUN, SAVE and LOAD to wafers on the Wafadrive.

When the Wafadrive was available in the States, a Wafadrive Bulletin was published. The notebook discussed ways to convert Tasword II, VU-FILE, VU-CALC and Campbell's Master File to run on the Wafadrive system. These were all 'Spectrum' versions and entail more work than the method I will use here.

First, set up your system with Spectrum emulator, Wafadrive, a fresh (formatted) wafer and then initialize the system with:

```
NEW* <ENTER>
```

Next, LOAD"" the first part of your TS2068 VU-FILE program tape and BREAK the program when it begins searching for the CODE file which comes next. Now type in

```
INK 7 <ENTER>
```

This allows you to list the BASIC portion of the program. Change lines 50, 1005, 1100 and 2000 to look like this:

```
50 BORDER 1: PAPER 1: INK 7: CLEAR 28287: OPEN##3,"c": LOAD*"VF"
```

```
1005 SAVE*g$,s,l: PRINT "Press V to VERIFY "" or any other key  
to continue."
```

```
1100 GOSUB 7000: VERIFY*g$
```

```
2000 CLS: PRINT "Load a file": GO SUB 6000: GO SUB 7000:  
LOAD*g$,s: GO TO USR a
```

If you wish to display the catalog of the current wafer before you are asked to type in SAVE and LOAD names than add the following code to the beginning of line 6000:

```
6000 CAT*: PRINT: INPUT "Enter file name "; LINE g$: LET f$( TO  
10)=g$: LET s=CODE f$(11)+256*CODE f$(12): LET l=CODE  
f$(13)+256*CODE f$(14): RETURN
```

After you have made the changes, save the BASIC program using:

SAVE\*"VU-FILE" LINE 1: VERIFY\*: CAT\*

the use of VERIFY\* and CAT\* allows us to position the wafer for maximum loading efficiency. Next, LOAD the VU-FILE CODE (skip over the VU-FILE SCREEN\$ file directly after the BASIC program on the tape) and play the tape. Once the CODE has been LOADED, SAVE the CODE to wafer using:

SAVE\*"VU FILE",28288,7216: VERIFY\*"VU FILE": CAT\*

You may now test VU-FILE by typing:

RUN 50

The program should now OPEN# the Centronics printer port and LOAD the CODE from the wafer, and bring up the initial menu.

All of this is great, but it would be a lot more fun if we had a file to load from wafer! Since the VU-FILE program comes with a sample database on tape ("WORLD"), let's save it to wafer.

First, exit the program by removing your wafer from the Wafadrive and choosing the Load A File option from the initial menu. This will cause the Wafadrive system to error and BREAK into the BASIC program. Re-insert your wafer and LOAD "WORLD" from your cassette program tape. Once it has LOADED, SAVE the data with:

SAVE\*"WORLD",34069,9788: VERIFY\*"WORLD"

Now you can run VU-FILE with GOTO 100 and try loading your file via the initial menu (eventhough it is already within the program from the cassette load). Everything should work normally and your LPRINTs will come out through your Wafadrive's parallel port. Note that COPYs will only work with a TS2040 (which can be connected to the back of the Wafadrive).

I found this conversion method to work very well. I also plan to discuss transferring TS2068 VU-CALC and MTERM/T for use on the Wafadrive in the future.

# CAMBRIDGE D I R E C T

CAMBRIDGE DIRECT, LTD.  
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Sincerely,



Kevin Jeffers,  
President  
Cambridge Direct

**P.S. Special note to user groups:** Cambridge Direct is now setting up a rep network among user groups that will allow you to buy the Cambridge Z88 at a discount - and resell it to group members at a profit to you, and a low price to them. Call me at 312-940-0084 for further details on this opportunity.

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## TS 2068 HOME ROM BYPASS

A Major barrier to fixing the problems in HOME ROM is one of access. Even though the ROM is socketed, you still have to open up the case and risk damage.

This article shows how to replace HOME ROM without touching a screw. It is not really necessary to replace ROM with EPROM. A battery backed-up static RAM would do as well if equipped with a READ ONLY switch. That way, the RAM can be written and then be switched to write-protect state. The saving in time over EPROM burning is impressive. Of course you will use EPROM in the end.

This unit does not preclude using the DOCK port if it has an extension connector and plugs into the DOCK slot. If you have a buss expander with slots, it can mount there, leaving the DOCK slot clear, but the former is what most will use.

The design in Fig 1 is for the case where you might have both. It works just as well if you don't have a buss expander.

Inside the case, and not externally available, is the signal which enables the HOME ROM chip. This signal is labeled ROMCS.

Our problem is to get ROMCS externally by a logic operation, and to prevent conflict with the internal ROM.

Preventing conflict with internal ROM is easy. We just issue BE whenever ROM is addressed.

Detecting when HOME ROM is being addressed is a bit more difficult, but quite straight-forward.

The HOME ROM is NOT being addressed whenever:

1. Either of the address lines A14 or A15 is high,
2. EXROM is low for EXROM addressed,
3. ROSCS is low for DOCK addressed,
4. BE is low from another addressed bank,
5. MREQ is high, indicating I/O or interrupt cycle, or
6. RD is high, indicating a write cycle.

What logic could be simpler to implement?

For over a year, I have used such a system to implement bank switching, but external "ROM" is core memory instead of battery backed-up RAM. It works like a charm, and can store grandfather copies of trial ROM images.

Now that the creation of new ROMS for the TS2068 has gotten a lot of attention, it would be a shame to let that year of working experience go to waste.

Much of the "clutter" in the existing ROM should be removed to an expansion bank. The most glaring example of this is how much code is wasted supporting COPY and the TS2040 printer. The same applies to much of LLIST. A similar situation exists in EXROM for tape operations, but this can be salvaged by modifying it so the mikrodrive and other tape loop devices can use it.

Some ROM routines, like SKIPIT, should be relocated back where they were originally; in this case down four bytes. (The correct address was maintained intact in the routine PASSEM in EXROM.)

Removing two of the barrier error calls gets it back to the right HOME ROM address.

It is easy to go overboard and "fix" things which might please you, but not someone else; or to assume an error exists when it is merely poorly understood how it was supposed to work. I have sweated many hours over something that looked wrong, then seeing something quite ingenious through the fog in my mind.

PLEASE, PLEASE contact me before going ahead with new ROM developments. I have made more mistakes than anybody!

William J. Pedersen

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